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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,505	12/30/2003	Adam J. Weissman	53051/288306	7264
40400 7590 12/21/2006 PATENT DEPARTMENT - 53051 KILPATRICK STOCKTON LLP 1001 WEST FOURTH STREET WINSTON-SALEM, NC 27101			EXAMINER AHN, SANGWOO	
			ART UNIT 2166	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	12/21/2006	PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/748,505

Applicant(s)

WEISSMAN, ADAM J.

Examiner

Sangwoo Ahn

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2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

This Office Action is in response to Applicant's communication filed on 10/5/2006.

Claims 1 – 29 are pending in this Office Action.

Claims 1 – 2, 6, 11 – 13, 16, 18 – 20, 22 – 23 and 28 have been amended.

### *Response to Arguments*

Applicant's argument has been fully considered but they are not persuasive.

Applicant mainly argued that Chaudhuri does not disclose "selecting from an inverted index at least, a first item associated with a first item entry having a first listing of articles associated with the first item, and a second item different from the first item".

In Examiner's opinion, the aforementioned feature is disclosed in Chaudhuri. Applicant stated that Chaudhuri merely discloses a method for reducing hash tables by compressing hash entries having the same hash value. However, Examiner asserts that these hash values are generated from the keywords ("items") found in the data records/articles to represent the keywords, instead of writing keywords directly in the table, for the purpose of eliminating the need to store potentially long strings of differing lengths directly in the table and accelerating the search process. Since the hash values  $v_1 - v_n$  represent different keywords, it is evident that the "first item" and the "second

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item" are different. The column ID's next to the hash values represent the data records/articles.

Fore the foregoing reasons, Examiner still believes that the feature recited in the amended claims is still disclosed in Chaudhuri's invention. Therefore, 35 U.S.C. 102 and 103 rejections still stand.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 9, 16 – 18, 26, and 28 – 29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication Number 2003/0088715 issued to Surajit Chaudhuri et al (hereinafter 'Chaudhuri').**

Regarding claim 1, Chaudhuri discloses a method, comprising:

selecting from an inverted index at least (Figure 4, paragraph 31 lines 3 – 5, paragraph 32 lines 3 – 4, paragraph 33 lines 3 – 6, et seq.),

a first item associated with a first item entry having a first listing of articles associated with the first item, and

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a second item different from the first item, the second item associated with a second item entry having a second listing of articles associated with the second item;

determining whether to compress the second item entry into the first item entry (paragraph 35 lines 2 – 3, 15 – 17, et seq.); and

compressing the second item entry into the first item entry based at least in part on the determination (Figures 4 and 5, paragraph 35 lines 5 – 9, et seq.).

Regarding claim 9, Chaudhuri discloses the items comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

Claim 16 is rejected based on the same rationale discussed above.

Regarding claim 17, Chaudhuri discloses that the plurality of item entries comprises three or more item entries (Figure 4, et seq.).

Claims 18 and 28 are essentially the same as claim 1 except that it sets forth the limitation as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claim 1 rejection.

Regarding claim 26, Chaudhuri discloses the items comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

Regarding claim 29, Chaudhuri discloses that the plurality of item entries comprises three or more item entries (Figure 4, et seq.).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2, 8, 10, 19, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri in view of U.S. Patent Number 6,834,290 issued to Thomas Pugh et al (hereinafter "Pugh").**

Regarding claim 2, Chaudhuri discloses the method of claim 1.

Chaudhuri does not explicitly disclose determining a cost-benefit ratio, and comparing the cost-benefit ratio with an acceptable value.

However, Pugh discloses determining a cost-benefit ratio (column 3 lines 23 – 25, et seq.), and comparing the cost-benefit ratio with an acceptable value (column 3 lines 25 – 30, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Pugh's use of cost-benefit ratio would have enabled Chaudhuri's system to provide a cost-effective reorganization plan for reorganizing data of a database to save memory space.

Regarding claim 8, Pugh discloses a benefit for the cost-benefit ratio is a representation of the amount of memory saved (column 10 lines 39 – 43, et seq.).

Regarding claim 10, Pugh discloses the acceptable value is predetermined (column 9 lines 37 – 40, et seq.).

Claims 19, 25, and 27 are essentially the same as claims 2, 8, and 10 except they set forth the limitations as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claims 2, 8, and 10 rejections.

**Claims 3 – 7, 11 – 15, 20 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri and Pugh, further in view of U.S. Patent Number 5,915,249 issued to Graham Spencer (hereinafter “Spencer”).**

Regarding claim 3, Chaudhuri and Pugh disclose the method of claim 2.

Chaudhuri and Pugh do not explicitly disclose an item value for each article that the item appears in.

However, Spencer discloses an item value for each article that the item appears in (column 1 lines 51 – 55, column 3 lines 14 – 30; 56 – 57, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the aforementioned references because Spencer’s item value would have enabled Chaudhuri and Pugh’s system to provide a database structure and query processing technique that efficiently handles queries in very large databases, and accounts for the significance and repetitiveness of certain terms in the articles.

Regarding claim 4, Spencer discloses the item value is a representation of the strength of the item in the article (column 1 lines 53 – 55, column 3 line 30, et seq.).

Regarding claim 5, Spencer discloses the item value is a representation of whether the item appears in the article (column 1 lines 53 – 55, column 3 line 30, et seq.).

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Regarding claim 6, Chaudhuri discloses compression and compressed entry.

Pugh discloses a cost for the cost-benefit ratio comprises a representation of the loss in precision or the additional processing time that can be required (column 2 lines 21 – 22, column 10 lines 52 – 56, et seq.).

Regarding claim 7, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a cost for the cost-benefit ratio comprises determining how much the data have to change (column 10 lines 52 – 56, et seq.).

Claims 20 – 24 are essentially the same as claims 3 – 7 except they set forth the limitations as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claims 3 – 7 rejections.

Regarding claim 11, Chaudhuri, Pugh, and Spencer disclose a method, comprising:

selecting from an inverted index at least (Chaudhuri: Figure 4, paragraph 31 lines 3 – 5, paragraph 32 lines 3 – 4, paragraph 33 lines 3 – 6, et seq.),

a first item associated with a first item entry having a first listing of articles associated with the first item comprising an item value for each article (Spencer: column 1 lines 51 – 55, column 3 lines 14 – 30; 56 – 57, et seq.), and

a second item different from the first item, the second item associated with a second item entry having a second listing of articles associated with the second item comprising an item value for each article (Spencer: column 1 lines 51 – 55, column 3 lines 14 – 30; 56 – 57, et seq.);



determining whether to compress the second item entry into the first item entry (Chaudhuri: paragraph 35 lines 2 – 3, 15 – 17, et seq.) by determining a cost-benefit ratio for compressing the second item entry into the first item entry (Pugh: column 3 lines 23 – 25, et seq.) and comparing the cost-benefit ratio with an acceptable value to determine if the cost-benefit ratio is acceptable (Pugh: column 3 lines 25 – 30, et seq.); and

if the cost-benefit ratio is acceptable, compressing the second item entry into the first item entry based at least in part on the determination (Chaudhuri: Figures 4 and 5, paragraph 35 lines 5 – 9, et seq.).

Regarding claim 12, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a cost for the cost-benefit ratio comprises determining how much the data have to change (column 10 lines 52 – 56, et seq.).

Regarding claim 13, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a benefit for the cost-benefit ratio is a representation of the amount of memory saved (column 10 lines 39 – 43, et seq.).

Regarding claim 14, Pugh discloses the acceptable value is predetermined (column 9 lines 37 – 40, et seq.).

Regarding claim 15, Chaudhuri discloses the item comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sangwoo Ahn whose telephone number is (571) 272-5626. The examiner can normally be reached on M-F 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Sangwoo Ahn  
Patent Examiner  
AU 2166

12/12/2006 SW

  
**MOHAMMAD ALI**  
**PRIMARY EXAMINER**